

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
22 January 2004 (22.01.2004)

PCT

(10) International Publication Number  
**WO 2004/008149 A1**

(51) International Patent Classification<sup>7</sup>: G01N 33/68, A01K 67/027

(21) International Application Number:  
PCT/EP2003/007361

(22) International Filing Date: 9 July 2003 (09.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
02015429.0 11 July 2002 (11.07.2002) EP  
60/394,870 11 July 2002 (11.07.2002) US

(71) Applicant (for all designated States except US): EVOTEC  
NEUROSCIENCES GMBH [DE/DE]; Schnackenburgallee 114, 22525 Hamburg Hamburg (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): POHLNER, Johannes [DE/DE]; Quittenweg 11, 22175 Hamburg (DE).  
VON DER KAMMER, Heinz [DE/DE]; Verbindungsstr. 6d, 22607 Hamburg (DE).

(74) Agents: MEYERS, Hans-Wilhelm et al.; Patent Attorneys, von Kreisler Selting Werner, P.O. Box 10 22 41, 50462 Cologne (DE).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

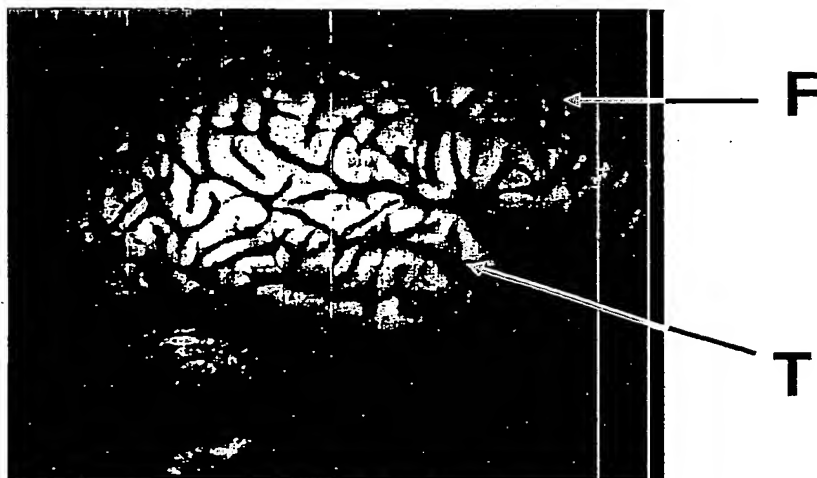
Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DIAGNOSTIC AND THERAPEUTIC USE OF A RAB FAMILY GTP-BINDING PROTEIN FOR NEURODEGENERATIVE DISEASES

### Identification of Genes Involved in Alzheimer's Disease Pathology



(57) **Abstract:** The present invention discloses the differential expression of a gene coding for a GTP-binding protein from the rab-family in specific brain regions of Alzheimer's disease patients. Based on this finding, this invention provides a method for diagnosing or prognosticating a neurodegenerative disease, in particular Alzheimer's disease, in a subject, or for determining whether a subject is at increased risk of developing such a disease. Furthermore, this invention provides therapeutic and prophylactic methods for treating or preventing Alzheimer's disease and related neurodegenerative disorders using the rab31 gene and its corresponding gene products. A method of screening for modulating agents of neurodegenerative diseases is also disclosed.

BEST AVAILABLE COPY

WO 2004/008149 A1